

# Sailing in the Age of Smartphones: Audio Interface in the Post-Screen World

Smartphones are everywhere, so even on small sailing dinghies it is now possible to have amazing sailboat navigation technology. In the past, 12-volt batteries would be needed and marine electronics were expensive to buy, and difficult to install. Many important functions were unavailable or required a tactician running PC software, such as using “polar plots” and weather routing. But not anymore: low-cost apps, the smartphone you already have, and [wireless anemometers](#) are making sailboat navigation easy and accessible.

For generations of seafarers, there has been no way to accurately judge the best sailing angles upwind. Sailboats often “tack” or zig-zag to their destination, which affects the distance and travel time. The “helmsman’s dilemma” is whether to head off the wind to pick up more speed (but with longer distance), or head more into the wind to reduce the distance to the destination (but at a slower speed). Ironically, [low-cost sailboat navigation apps](#) are evolving much faster than expensive GPS chartplotters, and can now provide a quick and easy solution for this problem.

When providing your “ETA” (Estimated Time of Arrival), GPS devices assume that you are traveling in a straight line to the destination, like a vehicle, aircraft or powerboat. But sailboat tacking across the wind greatly increases the distance. This causes a problem for GPS chartplotters: if they don’t know your tacking distance, how can they calculate your ETA correctly? Fortunately, nowadays there are apps available to calculate tacking distances to display your correct Tacking Time to Destination (TTD). And if you are using a wireless anemometer with the app on your smartphone or tablet, any time the wind changes, your optimal tacks and TTD update automatically.

So now whether in a large yacht or a sailing dinghy, mobile apps let you display and share a GPS track of your route, and easily see the optimal tacks to get to your destination. No professional tactician needed.

Unfortunately, mobile apps are difficult to navigate with if you can't see the screen out on the water, where the sun is bright and reflecting. Wearing sunglasses makes it even worse. And if you turn up the screen brightness, your tablet/phone runs out of battery power and overheats.

There are hints at home and in the car that we are entering the post-screen world. You can connect your phone to the sound system in your car with Bluetooth to take calls and play music and podcasts. At home, Siri, Alexa and OK Google are all competing to connect us to intelligent systems without a keyboard. Sailing is a perfect fit for the post-screen world, since you need to keep your phone/tablet safe and dry out on the water, and no company makes a smartphone or tablet with an E-Ink type screen like a calculator or e-reader that is just as easy to see in direct sunlight. Plus you need your hands free for handling lines, and your eyes on the water and sails.

So as app technology continues to evolve, it could be very useful for sailors to use an audio interface like [this one](#) proposed for Android and iOS. That would work in boats of all sizes. No expensive screens to buy, since it uses your existing smartphone or tablet. No more screen at all; the app just tells you the boat speed, tacking results and wind conditions in pre-set intervals. Amazingly simple.

You can put your screen to sleep to save power and reduce heat, and put it someplace safe so you don't have to worry about it. Keep your hands free for sailing. If you want to hear Audio Tacking at any time, just tap on the screen (even if it is off). You can also ask for automatic updates if wind and GPS conditions change a certain amount.

What you hear: *“Wind speed 7.8 knots. Boat speed 4.2 knots. Heading 192 degrees. Bearing starboard 17 degrees would save 1 hour 12 minutes.”* This is a simple message. But it is actually very sophisticated data. You can set how much of a change you want before an audio notification. You can also choose if you want to hear: Apparent/True wind, heading, wind angle/direction, TTD, tacking distance, bearing of optimal tack, and how long until the next tack (time and/or distance).

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This is a totally different approach. GPS chartplotters are waterproof and can be seen out on the water, but they are expensive and don't provide your optimal tacks and Tacking Time to Destination (TTD). A lot more people have marine navigation apps, but those are hard to see. An audio interface solves all of these problems.

If it is only audio that you hear, there are none of the usual privacy issues with OK Google or Alexa listening to everything you say. The interface should be designed to give you wind conditions, heading, boat speed when you want it — without being distracting or annoying. You control when to get the information. A simple tap and hearing the information is a lot easier than trying to see it on your smartphone/tablet out in the sun, while keeping the device safe and dry. Like having a tactician onboard doing trigonometry every second, and giving you updates. When designed well, it is like a voice in your head and very natural to use, so that you get the information without needing to check a dashboard or interrupt your view of the water.

Sailboat navigation is entering a new era with wireless electronics, and a tablet/smartphone with GPS in everyone's pocket. If the screen is no longer necessary, that reduces hardware costs, and could be very convenient in sailboats from large keelboats to sailing dinghies and beachable catamarans.